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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/687,574      | 10/15/2003  | Yoshifumi Arai       | YOKOP006            | 7751             |

25920 7590 10/10/2007  
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| EXAMINER |
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WASHINGTON, JAMARES

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| ART UNIT | PAPER NUMBER |
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2625

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| MAIL DATE | DELIVERY MODE |
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10/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/687,574

Applicant(s)

ARAI ET AL.

Examiner

Jamares Washington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____                                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____   | 6) <input type="checkbox"/> Other: ____                           |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

I. Species of the first aspect of the invention disclosed on pages 4-12; in particular, the invention described on page 4 lines 6-26 where a lattice point determining method is disclosed.

II. Species of the second aspect of the invention disclosed on page 12; in particular, the invention described on page 12 lines 13-16, where “the disposition of lattice points in a multi-dimensional color space and the disposition of lattice points in a lower-dimensional color space are separately optimized”.

III. Species of the third aspect of the invention disclosed on pages 17 and 18; in particular, the invention described on page 17 lines 23-27, where the values of evaluation functions are increased with increase in the difference between the relative positional relation between two adjacent lattice points and the relative positional relation between other two adjacent lattice points.

IV. Species of the fourth-sixth aspects of the invention disclosed on pages 18-22; in particular, the invention described on page 18 lines 4-7 wherein the difference between the relative positional relation between other two lattice points is considered.

V. Species of the seventh aspect of the invention disclosed on pages 22-25; in particular, the invention described on page 23 lines 8-13 wherein by partially differentiating the evaluation function by each color component to compute the minimal value, a deviation which minimizes the evaluation function can be computed. By repeating this processing, the position of a lattice point converges in the optimal position.

VI. Species of the eighth aspect of the invention disclosed on pages 24-26; in particular, the invention described on page 25 lines 2-8 wherein the lower-dimensional color lattice points are substantially maintained, and further, the ink quantity lattice points are readjusted. When readjustment is made, a binding condition is imposed so that both the lattice points can be brought into correspondence with each other by a predetermined transformation expression.

VII. Species of the ninth aspect of the invention disclosed on pages 6-7; in particular, the invention disclosed on page 6 lines 6-9, which explains a method to cope with the lattice points of the CMY color space and the lattice points in the color space whose components are ink colors not corresponding to each other.

VIII. Species of the tenth-thirteenth aspects of the invention disclosed on pages 12-28; in particular, the invention disclosed on page 13 line 16 wherein ink quantity limitation is considered in readjustment.

IX. Species of the fourteenth-fifteenth aspects of the invention disclosed on pages 28-30; in particular, the invention disclosed on page 28 line 27 through page 29 line 1 wherein limitation is imposed on the quantity of specific color ink consumed at a specific gradation value.

X. Species of the sixteenth-seventeenth aspects of the invention disclosed on pages 30-32; in particular, the invention disclosed on page 30 line 27 wherein a second movement evaluation function is defined.

XI. Species of the eighteenth aspect of the invention disclosed on pages 32-34; in particular, the invention disclosed on page 32 wherein an alternate example is given for defining the second movement evaluation function.

2. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g.,

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searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under U.S.C. 101 and/or 35 U.S.C. 112 first paragraph.

3. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.141. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

4. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after

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the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

5. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jmares Washington whose telephone number is (571) 270-1585. The examiner can normally be reached on Monday thru Friday: 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on (571) 272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

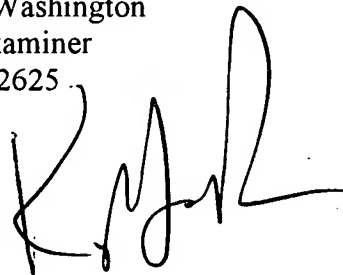
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
JW

October 2, 2007

Jamare Washington  
Junior Examiner  
Art Unit 2625



KING Y. POON  
SUPERVISORY PATENT EXAMINER